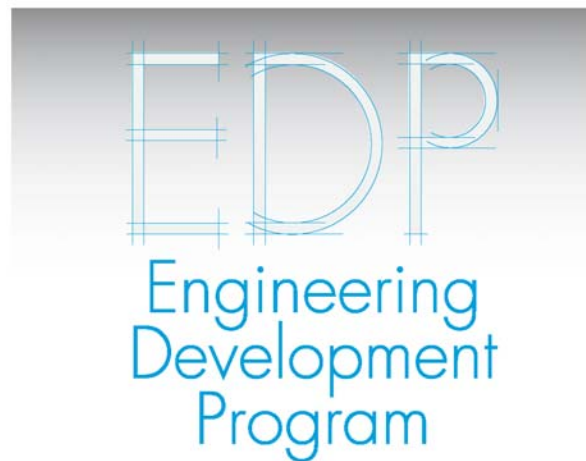


Engineering Internship Program (EIP)

2009



Engineering Internship Program (EIP)

The Department of Engineering is pleased to announce a new program for engineering majors interested in industrial internship experiences. The Engineering Internship Program (EIP) is designed to provide unique internship opportunities with the primary objective of contributing to their professional development of our students as engineers.

Descriptions of available internship opportunities can be found in the Office of Career Services located in Platt Center. Corporate overviews of the participating industrial partners are provided for your information.

Application Process

To apply for an internship, students are asked to login to **MUDDlink** to submit a cover letter with resume. The cover letter should convey the student's interest in the internship opportunity and how this position would contribute to the student's professional development as an engineer. Students should clearly indicate what company and position they are applying for. Applications will be forwarded to the Department of Engineering where interviews will be arranged to give students an opportunity to learn more about the available positions.

Industrial Partners

The following corporate partners have joined with the department to provide internship opportunities this year.



Beckman Coulter, Inc. is a leading manufacturer of biomedical testing instrument systems, tests and supplies that simplify and automate laboratory processes. Spanning the biomedical testing continuum—from pioneering medical research and clinical trials to laboratory diagnostics and point-of-care testing—Beckman Coulter's 200,000 installed systems provide essential biomedical information to enhance health care around the world. The company, based in Fullerton, Calif., reported 2007 annual sales of \$2.76 billion with more than 78 percent of this amount generated by recurring revenue from supplies, test kits and services.



ViaSat produces innovative satellite and other digital communication products that enable fast, secure, and efficient communications to any location. We bring today's new communication applications to people out of reach of terrestrial networks, in both the commercial and government sectors, with a variety of networking products:

- Satellite networks for fixed-site and mobile communications
- Satellite antenna systems
- Wireless datalinks and terminals for combat situational awareness
- Information security for military networking
- Mobile IP networking for soldiers
- Communication microprocessor chipsets
- Application and communication acceleration
- Satellite network system design
- Communication simulation and training systems.



SpaceX was founded with the goal of substantially improving the reliability and reducing the cost of space transportation. We are committed to becoming the world's premiere choice for delivery of spacecraft to orbit and beyond. With the Falcon 1, Falcon 9 and Falcon 9 Heavy launch vehicles, SpaceX offers light, medium and heavy lift capabilities to deliver spacecraft into any inclination and altitude, from low Earth orbit to geosynchronous orbit to planetary missions. And the SpaceX Dragon spacecraft provides both up and down transportation services for cargo, experiments and eventually crew-carrying missions. Drawn from the top ranks of the aerospace industry, the company's technical personnel share the common belief that significant room for improvement exists in the launch services industry. Dedication to this shared vision has resulted in technical advancements in propulsion, structures, avionics, manufacturing and launch operations, with the net benefit to our customers of increased reliability and reduced cost.



An EDISON INTERNATIONAL® Company Southern California Edison (SCE) is one of the nation's largest investor-owned, regulated electric utilities, and the largest subsidiary of Edison International. On an average day, SCE provides power for 11 million individuals, 800 communities and cities, 5,000 large businesses, and 280,000 small businesses in central, coastal and Southern California. Delivering that power takes 16 utility interconnections, 4,900 transmission and distribution circuits, 365 transmission and distribution crews, the days and nights more than 14,000 employees, and over a century of experience.

Beckman Coulter, Inc.
2009 Summer Internships

JOB NO.	LOCATION	JOB TITLE
53270	BREA	SOFTWARE DEVELOPMENT ENGINEER INTERN
53490	BREA	DEVELOPMENT SCIENTIST INTERN
53629	BREA	TECHNICAL APPLICATIONS SUPPORT-INTERN
53633	BREA	REGULATORY AFFAIRS INTERN
53709	BREA	MECHANICAL ENGINEER INTERN
53789	BREA	SALES OPERATIONS INTERN
53792	BREA	VALUE ENGINEER INTERN
53833	BREA	INDUSTRIAL ENGINEER INTERN
53834	BREA	TECHNICAL OPERATIONS ENGINEER INTERN
53835	BREA	TECHNICAL OPERATIONS ENGINEER INTERN
53836	BREA	TECHNICAL OPERATIONS ENGINEER INTERN
54149	BREA	STRATEGIC MARKETING INTERN
55910	BREA	ELECTRICAL ENGINEER INTERN
55930	BREA	MECHANICAL ENGINEER INTERN
55931	BREA	INDUSTRIAL ENGINEER INTERN
51344	CHASKA	LABORATORY TECHNICIAN INTERN
51364	CHASKA	COLLEGE RECRUIT-SOFTWARE DEV. INTERN
51384	CHASKA	COLLEGE RECRUIT-SW VAL ENGINEER INTERN
51385	CHASKA	COLLEGE RECRUIT-ELECTRICAL ENG INTERN
51387	CHASKA	COLLEGE RECRUIT-SYSTEMS ENGINEER INTERN
51404	CHASKA	COLLEGE RECRUIT-MECHANICAL ENG. INTERN
51405	CHASKA	COLLEGE RECRUIT-LABORATORY TECH INTERN
51406	CHASKA	COLLEGE RECRUIT-MECHANICAL ENG. INTERN
51407	CHASKA	COLLEGE RECRUIT-MECHANICAL ENG. INTERN
51408	CHASKA	COLLEGE RECRUIT-DEV SCIENTIST INTERN
51425	CHASKA	COLLEGE RECRUIT-SYSTEMS ENGINEER INTERN
51764	CHASKA	COLLEGE RECRUIT - QUALITY ENG INTERN
53530	CHASKA	COLLEGE RECRUIT-LABORATORY TECH INTERN
54550	CHASKA	COLLEGE RECRUIT-SCIENTIST INTERN
54612	CHASKA	COLLEGE RECRUIT-SOFTWARE DEV. INTERN
54613	CHASKA	COLLEGE RECRUIT-SW VAL ENGINEER INTERN
54629	CHASKA	COLLEGE RECRUIT-ELECTRICAL ENG INTERN
55411	CHASKA	COLLEGE RECRUIT-LABORATORY TECH INTERN
55412	CHASKA	COLLEGE RECRUIT - QUALITY ENG INTERN
52751	FULLERTON	SUMMER INTERN
52934	FULLERTON	SYSTEMS ADMINISTRATOR INTERN
52935	FULLERTON	INDUSTRIAL DESIGN INTERN
52936	FULLERTON	QUALITY ASSURANCE SCIENTIST INTERN
52949	FULLERTON	STRATEGY AND BUSINESS DEVELOPMENT INTERN
53489	FULLERTON	ELECTRICAL ENGINEER INTERN
53509	FULLERTON	MECHANICAL ENGINEER INTERN
53510	FULLERTON	ACCOUNTING INTERN
53809	FULLERTON	SOFTWARE DEVELOPMENT ENGINEER INTERN
53869	FULLERTON	SOX FINANCE AUDIT INTERN
55630	FULLERTON	FINANCIAL ANALYST INTERN
48305	INDIANAPOLIS	COLLEGE RECRUIT-MECHANICAL ENG. INTERN
48306	INDIANAPOLIS	COLLEGE RECRUIT-ELECTRICAL ENG INTERN
48323	INDIANAPOLIS	COLLEGE RECRUIT-SOFTWARE DEV. INTERN
51024	MIAMI	COLLEGE RECRUIT-SOFTWARE DEV. INTERN
51025	MIAMI	COLLEGE RECRUIT-ELECTRONIC ENG. INTERN
51044	MIAMI	COLLEGE RECRUIT-MECHANICAL ENG. INTERN
51046	MIAMI	COLLEGE RECRUIT ? INDUSTRIAL ENGINEER
51184	MIAMI	COLLEGE - BIOMEDICAL ENGINEER INTERN
51888	MIAMI	COLLEGE RECRUIT-MARKETING INTERN
54489	MIAMI	STRATEGY AND BUSINESS DEVELOPMENT INTERN
53837	Palm	COMMUNICATIONS SPECIALIST INTERN
54069	Palm	PRODUCT PUBLIC RELATIONS INTERN

Electrical Hardware Engineering Intern

This internship is within our Systems Product Development Center in the Hardware Engineering group. The intern will work not only with the Electrical Engineers but will also interface with Mechanical, Systems, and Software Engineers.

The Intern will:

- Assist Engineers in manufacturing support projects
- Design/test circuit boards and sub-systems using electronic test equipment, Orcad and simulation tools
- Collect, document and interpret experimental results and provide theoretical analysis
- Fabricate/assemble breadboards and prototypes
- Participate in the analysis, design and development of system applications

Qualifications:

- Students must be enrolled in an accredited college program in Electrical Engineering
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Mechanical Hardware Engineering Intern

This internship is within our Hardware Mechanical Engineering group of the Instrument Systems Development Center. The intern will work not only with the Mechanical Engineers but will also interface with Electrical, Systems, and Software Engineers.

The Intern will:

- Create component mechanism and electromechanical device designs from requirements.
- Evaluate and test hardware designs and technology.
- Document efforts using established procedures.
- Transfer technical documentation (drawings, specifications) into revision control system including creating and assembling Document Change Orders (DCO's).
- Participate in cross-functional teams
- Organize tasks, report progress on the assigned tasks
- Be trained in Immunodiagnostic products

Qualifications:

- Students must be enrolled in an accredited college program in mechanical engineering
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Software Development Engineering Internship

This internship is within our Systems Product Development Center in the Software Development / Software Testing group. The Development Center is comprised of Mechanical, Electrical and Systems Engineers as well as the Software Developers and Testers.

The intern will:

- Assist Software Development Engineers in development and verification of a new automated immunoassay instrument.
- Receive training on the background concepts, basic operation, and software system architecture of commercialized and in-development automated diagnostic instruments.
- Participate in the integration process of our newest hematology instrument.
- Design and develop software tools required for debugging/verification of workstation and instrument software.
- Use communication skills to formally document work progress.
- Learn and use a variety of software development tools including integrated development environments, software simulators, software configuration management systems, and defect tracking tools.
- Adhere to internal quality standards.
- Apply department Standard Operating Procedures (SOPs) to work assignments.
- Maintain appropriate design control and intellectual property documentation in compliance with policy.

Qualifications:

- Students must be enrolled in an accredited college program leading to a Bachelor degree in Software, Engineering, Mathematics, or related field
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Software Validation Engineering Internship

This internship is within our Systems Product Development Center in the Software Development / Software Testing group. The Development Center is comprised of Mechanical, Electrical and Systems Engineers as well as the Software Developers and Testers.

The intern will:

- Assist Software Development Engineers in development and verification of a new automated immunoassay instrument.
- Receive training on the background concepts, basic operation, and software system architecture of commercialized and in-development automated diagnostic instruments.
- Participate in the integration process of our newest hematology instrument.
- Design and develop software tools required for debugging/verification of workstation and instrument software.
- Use communication skills to formally document work progress.
- Learn and use a variety of software development tools including integrated development environments, software simulators, software configuration management systems, and defect tracking tools.
- Adhere to internal quality standards.
- Apply department Standard Operating Procedures (SOPs) to work assignments.
- Maintain appropriate design control and intellectual property documentation in compliance with policy.

Qualifications:

- Students must be enrolled in an accredited college program leading to a Bachelor degree in Software, Engineering, Mathematics, or related field
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Systems Engineer

This internship position is in the Knowledge and Technology Foundation which is part of the Immunoassay Research and Development group.

This student will participate in component, subsystem, math modeling and system concept evaluation verifying key design parameters with assessment of the reagent assay interaction; evaluate design options/investigation with appropriate experimentation; analyze and test designs for system/reagent interactions; support the development of feasibility efforts; create technical documents and share knowledge with others in the work cell.

Qualifications:

- Students must be enrolled in an accredited college program
- Students must be at least 18 years of age
- Students who have lab experience will be given preference
- Students enrolled in chemical engineering, engineering, or sciences with the goal of working in the medical diagnostics field will be given preference
- Proficiency with Excel and/or Visual Basic programming a plus
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Systems Integration Internship

This internship is within our Systems Product Development Center in the Hardware Engineering group. The intern will work not only with the Systems Engineers but will also interface with Mechanical, Electrical, and Software Engineers.

The intern will:

- Assist with the resolution of field issues from Dxl.
- Improve Dxl reliability by designing and implementing test plans and fixtures.
- Receive training on background concepts, basic operation, and maintenance of the Access Immunoassay Instrument Family.
- Assist with test protocols designed to validate proposed changes to the Access2+ or Dxl instruments.
- Troubleshooting techniques aimed at pinpointing problems in an electromechanical instrument.
- Operation and maintenance of laboratory test equipment.
- The development process as it applies to automated laboratory instruments in an established medical device manufacturing company.
- Documentation techniques needed to develop instruments according to FDA/ISO clauses.
- Adhere to internal quality standards.
- Apply appropriate Standard Operating Procedures (SOPs) to work assignments.
- Maintain appropriate design control and intellectual property documentation in compliance with policy.
- Receive training on and act in accordance with safe and proper laboratory and manufacturing floor practices.

Qualifications:

- Students must be enrolled in an accredited college program in Mechanical or Electrical engineering
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Systems Integration Internship - JH

This internship is within our Systems Product Development Center in the Hardware Engineering group. The intern will work not only with the Systems Engineers but will also interface with Mechanical, Electrical, and Software Engineers as well as Systems Scientists.

The intern will:

- Assist Staff Scientists in analyzing and improving performance of automated immunoassay instruments.
- Receive training on the background concepts, basic operation and maintenance of Unicel analyzers
- Learn how to operate the commercially established Access2 Immunoassay system.
- Conduct experiments designed to troubleshoot problems experienced by external or internal customers.
- Perform test protocols designed to verify and/or validate specific aspects of Unicel system performance.
- Assist with the reduction and analysis of instrument verification and platform-to-platform comparison data.
- Adhere to internal quality standards.
- Apply department Standard Operating Procedures (SOPs) to work assignments.
- Maintain appropriate design control and intellectual property documentation in compliance with policy.
- Receive training on and act in accordance with safe laboratory practices.

Qualifications:

- Students must be enrolled in an accredited college program
- Students must be at least 18 years of age
- Students who have completed coursework in engineering, biology or chemistry with lab experience will be given preference
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Electrical Engineering Intern

This internship is within our Manufacturing organization in the Instrument Technical Operations department. This department consists of Electrical, Mechanical, Systems and Process Engineers.

The intern will:

- Assist in the development of parts, testing methods, fixtures and software for instrument subassembly
- Verify and validate testing methods, fixtures and software
- Write test methods, and sections of SOPs
- Adhere to internal quality standards
- Apply appropriate Standard Operating Procedures (SOPs) to work assignments
- Maintain appropriate design control and intellectual property documentation in compliance with policy
- Receive training on and act in accordance with safe and proper laboratory and manufacturing floor practices

Qualifications:

- Students must be enrolled in an accredited college program in Electrical Engineering
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year

Mechanical Engineering Intern

This internship is within our Manufacturing organization in the Instrument Technical Operations department. This department consists of Electrical, Mechanical, Systems and Process Engineers.

The intern will:

- Assist the development of testing methods, fixtures and software for instrument subassembly
- Verify and validate testing methods, fixtures and software
- Write test methods, and sections of SOPs
- Adhere to internal quality standards
- Apply appropriate Standard Operating Procedures (SOPs) to work assignments
- Maintain appropriate design control and intellectual property documentation in compliance with policy
- Receive training on and act in accordance with safe and proper laboratory and manufacturing floor practices

Qualifications:

- Students must be enrolled in an accredited college program in Mechanical Engineering
- Students must be at least 18 years of age
- Must possess strong verbal and written communication skills
- Preference will be given to students having just completed their Junior and Senior year



No specific details are currently available

However

Southern California Edison seeks engineers with training or interests in:

- Mechanical Engineering
- Electrical Engineering
- Power Engineering
- Civil Engineering
- Geotechnical Engineering



SPACEX

Interns Wanted

SpaceX interns play a significant role in the design, development, test and manufacture of spaceflight hardware.

SpaceX's full-time, paid internships will provide you with hands-on experience contributing to our exciting launch vehicle and spacecraft programs and mentoring from our world-class engineering team.

Types of Internships Available:

- **Avionics:** Software, Analog/RF Electronics, Digital Electronics, GNC, Systems Engineering
- **Business Development:** Proposal writing, Market research, Mission management
- **Launch Engineering:** LABVIEW programming, Mechanical structures and Fluid systems design, Mission Operations, Industrial electrical systems design
- **Propulsion:** Thermal and Fluids analysis, Fluid systems testing, Structural analysis, Engine testing, Materials testing
- **Structures:** CAD design, FEA, Structural testing, Dynamics, Aerodynamics, Thermal analysis

The most successful candidates for SpaceX internships and co-ops have a history of significant contributions to hands-on extracurricular engineering projects (beyond required class projects) and a stellar academic record.

SPACEX
www.spacex.com

Apply to "Internship and Co-Op Positions" job on our Careers page

SPACE X: REVOLUTIONIZING ACCESS TO SPACE

SpaceX is leading the aerospace industry in developing a new generation of launch vehicles and spacecraft. Our mission is to further human space exploration by increasing the reliability and reducing the cost of space travel, ultimately by a factor of ten.

We have already made history with our Falcon 1 launch vehicle, the first privately-developed liquid fuel rocket to orbit the Earth. The next major goal for SpaceX: launching our much larger Falcon 9 vehicle from Cape Canaveral in 2009.

At SpaceX, we are serious about revolutionizing access to space. If you are interested in being part of the revolution, we are interested in hearing from you.

SpaceX Internships

We are currently seeking talented individuals to fill summer internship and/or co-op positions at our Los Angeles Headquarters Site and our Texas Test Facility. SpaceX engineering interns play a significant role in the design, development, test, and manufacture of spaceflight hardware.

Description:

The most successful candidates for SpaceX internships and co-ops have a history of significant contributions to hands-on extracurricular engineering projects (beyond required class projects) and a stellar academic record.

SpaceX's full-time, paid internships will provide you with hands-on experience contributing to our exciting launch vehicle and spacecraft programs and mentoring from our world-class engineering team.

SpaceX generally has the following types of internships available:

- **Avionics:** Software, Analog/RF Electronics, Digital Electronics, GNC, Systems Engineering
- **Business Development:** Proposal writing, Market research, Mission management
- **Launch Engineering:** LABVIEW programming, Mechanical structures and Fluid systems design, Mission Operations, Industrial electrical systems design
- **Propulsion:** Thermal and Fluids analysis, Fluid systems testing, Structural analysis, Engine testing, Materials testing
- **Structures:** CAD design, FEA, Structural testing, Dynamics, Aerodynamics, Thermal analysis

Education preference:

Mechanical Engineering, Electrical Engineering, Software Engineering, Civil Engineering, Aerospace Engineering, Applied Mathematics or Physics majors who are at least in the third year of university level instruction.

Internship Timing and Duration:

Internship start and end dates are flexible, but Interns should plan to commit to an internship period of at least 10 weeks. This allows for significant immersion in a hands-on engineering project.

For more information visit www.spacex.com



Team Intern Program

Project Description

Mechanical Engineering (Packaging) of an expansion chassis for the Blue Force Tracking (BFT) product. Goal of the program is to explore packaging concepts and materials to design and fabricate a concept prototype of an expansion chassis to allow integration of additional functions to extend the capability of the BFT terminal to support additional routing and communication functions. Investigate low cost packaging materials and concepts that will support environmental requirements. Investigate SWaP (Size, Weight, and Power) tradeoffs as they relate to a convergent platform and radio infrastructure. Key task in this effort is to evaluate environmental and user operational constraints as it relates to packaging design. Prototype design to use ViaSat's Solidworks toolbase. Thermodynamic modeling of the package will be necessary. Investigation of manufacturing technology and recommendations will also be included. Evaluation of SWaP as it relates to heat transfer, IO connectors, electronics, and other radio infrastructure components will be part of the evaluation and design criteria. The team will generate a prototype design. This is a full-time, paid internship for 10-12 weeks starting late May, 2009.

Summary: Team will evaluate expansion chassis options and make recommendations, evaluate cost and SWaP trades. Team will develop Solidworks model, perform thermal analysis and fabricate a Proof of concept prototype assembly

Intern Qualifications:

1. Intern 1
 - a. US Person (Citizen or Permanent Resident)
 - b. Engineering Physics Background
 - c. Material Science Background
 - d. Basic understanding of Heat Transfer
2. Intern 2
 - a. US Person (Citizen or Permanent Resident)
 - b. Mechanical Engineering Background
 - c. Understanding of Solidworks Design Tools
 - d. Background in Manufacturing Technology
 - e. Material Science Background
3. Intern 3
 - a. US Person (Citizen or Permanent Resident)
 - b. Electrical Engineering Background
 - c. Will Evaluate circuit power and size reduction